GeoInsight®
Environmental Strategy & Engineering

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PROJECT MEMORANDUM

To: Alex Sherrin, USEPA
Joe Lemay, USEPA

From: Christene Binger and Kevin Trainer

Date: May 12, 2022

Project No. 2491-010

Re: Revised Action Plan for PAH and PCB Areas
60 Olympia Avenue
Woburn, Massachusetts

OVERVIEW

This project memorandum provides an Action Plan to address the polycyclic aromatic hydrocarbon (PAH) and polychlorinated biphenyl (PCB) areas located at the 60 Olympia Property in Woburn, Massachusetts (the Olympia Property). The objective of this work plan is to meet the cleanup goals for these two areas established in the 1989 Operable Unit 1 Record of Decision (ROD) for the Wells G&H Superfund Site in Woburn, Massachusetts.

BACKGROUND

PAH Area

Sampling activities performed by Ebasco Services Incorporated (Ebasco) in 1987 during the Remedial Investigation for the Wells G & H Superfund Site included sampling and analysis of soils located along the western portion of the Olympia Property, near the railroad line located on the western border of the Olympia Property. At the southernmost sampling location (SS-04) PAHs were detected in shallow soils (0 to 1 foot below the ground surface (BGS)) at a total concentration of 6.375 milligrams per kilogram (mg/kg). The sampling location was located between City of Woburn and Massachusetts Water Resource Authority (MWRA) sewer manholes that are situated at the southwestern corner of the Olympia Property. However, it must be noted

that the 1987 samples were primarily collected from 0 to 2 feet BGS (12 samples) and 2 to 4 feet BGS (3 samples). Only one sample was collected from 0 to 1 foot BGS, and that was the sample with the highest reported PAH concentrations (sample SS-04; 0 to 1 foot).

Because the concentration of total carcinogenic PAHs detected in the soil sample was greater than the Wells G & H Superfund Site action level for total carcinogenic PAHs (0.694 mg/kg), the ROD specified that 5 cubic yards of PAH-impacted soil be removed from the SS-04 location of the Olympia Property. On June 4, 2003, approximately 3 cubic yards of soil were excavated and transported off-site for disposal. Because a thin layer of surface soil was removed the area was not back filled. Of the eight post-excavation samples, reported concentrations of PAH exceeded the ROD level in three of the samples, which were generally located along the western side of the excavation.

PCB Area

PCBs were not detected in the 1987 samples collected from the Olympia Property by Ebasco. Subsequent soil sampling performed by TRC Environmental Corporation (TRC) in 2002 identified a localized area of PCB impacts to surficial soil in the central portion of the upland area on the western portion of the Olympia Property. The highest concentration of PCBs (33 mg/kg) was detected in a surficial soil sample collected adjacent to a small area that was occupied by rubber waste (the general sampling area was located near TRC monitoring well "Test-1.").

Based upon these sampling results, the United States Environmental Protection Agency (USEPA) determined the PCB impacts in soils in this area represented a direct contact threat and that these soils should be removed, as described in the March 17, 2003 Administrative Order on Consent for Removal Action (CERCLA Docket No. 01-2003-0023; the "Order"). The Order noted that the site-specific risk-based cleanup level for PCBs established in the ROD was 1.04 mg/kg.

The April 16, 2003 Work Plan proposed to excavate PCB-impacted surface soils. Between June and September 2003, excavation was conducted in an iterative manner, based upon the results of soil sampling collected during the excavation. During excavation activities, the water table was located approximately 2 feet BGS and soil below that depth was saturated with groundwater. Excavation was extended to depths of approximately 3 to 3.5 feet BGS. PCB concentrations in six of the eight post-excavation soil samples met the target PCB concentration of 1.04 mg/kg established by the ROD. PCB concentrations in two soil samples collected at depths of 3 to 3.5 feet BGS exceeded the ROD target. However, these samples were collected at depths greater than 3 feet BGS, were located below the normal water table, and were not considered to be surface soils. Because direct human contact with this soil was not anticipated, further excavation was not completed. A total of 120 waste packs containing soil (each designed to hold up to one cubic yard of material) and eight 55-gallon containers containing liquids were transported off-site for disposal.

Previous remedial work performed in these areas was summarized in several reports, including:

- June 2, 2003 – First Progress Report: Administrative Order on Consent for Removal Action
- June 20, 2003 – Second Progress Report: Administrative Order on Consent for Removal Action

- April 2, 2004 - Final Report – PCB Removal Action

ACTION PLAN

PCB Area

For the PCB area, the USEPA provided an April 8, 2022 Technical Memorandum that evaluated the post-excavation soil concentrations relative the ROD Soil Action Levels using a statistical approach. The Technical Memorandum considered 33 soil samples that are representative of post-excavation conditions and calculated the 95% Upper Confidence Limit (UCL) of the arithmetic mean concentration using the USEPA's ProUCL program. The resultant 95% UCL of the arithmetic mean identified in the Technical Memorandum was 0.778 mg/kg, which is less than the ROD Soil Action Level of 1.04 mg/kg.

GeoInsight will review and evaluate the data retained for the statistical analysis, identify the sample distribution and appropriate UCL calculation methods, and independently calculate a 95% UCL of the arithmetic mean using the ProUCL program. In addition, GeoInsight will evaluate the representativeness of the existing data set to identify whether adequate sampling coverage for the surficial release was attained. GeoInsight will prepare a technical memorandum to summarize the results of this review and to provide the updated 95% UCL of the arithmetic mean calculations. Based upon review of previous excavation and sampling, and the information provided in the Technical Memorandum, additional sampling or soil removal in the PCB area is not anticipated at this time.

PAH Area

For the PAH area, a focused soil excavation will be performed between two manholes in the area of the three 2003 post excavation soil samples where PAH concentrations exceeded the ROD level, near the property line with Wildwood to the south. The two manholes are associated with the MWRA and City of Woburn sewer piping are located in this area. See attached Figures 2 (Site Plan) and Figure 4 (PAH Impacted Area Sampling Locations) from the June 20, 2003 Second Progress Report that are annotated with the location of the planned excavation and additional soil sampling locations. Activities will include removal of surficial soil (to depths of 6 to 12 inches BGS) between the manholes and collection of post-excavation samples. The components of the Action Plan are described below:

Area Preparation: Recent review of the area conditions indicated low overgrowth, small saplings, and one large tree between the manholes. Small saplings and brush will be removed to prepare the area for excavation. Because the tree is located between the manholes, and east of the post excavation sample location SPE-8, excavation activities will be limited to the edge of the tree and associated root structure. Surface soil near the base of the tree will be hand excavated. The tree will not be removed to minimize impacts to nearby wetlands by limiting disturbance of deeper soils. Prior to site activities, erosion control measures, consisting of haybales or mulch/straw wattles, will be installed around the planned excavation area on the east side abutting the wetland area.

Permits: Prior to soil excavation, GeoInsight will pre-mark the proposed excavation area and contact Dig-safe for utility clearance. For the initial work in 2003, an 8(m) permit was obtained

from MWRA to perform remedial activities in the Sewer line right of way (a copy of the 8(m) permit is attached). Permits are exempt under CERCLA as long as substantive requirements are followed. Therefore, as a courtesy, GeoInsight has reached out to MWRA to notify them of the proposed work that will be conducted. GeoInsight will also contact the Woburn Department of Public Works to inform them of the proposed soil excavation activities next to the Woburn sewer manhole.

Pre-Disposal Soil Characterization: GeoInsight will collect a pre-excavation soil sample to evaluate disposal options for the excavated soil. The soil sample will consist of six individual samples collected the proposed excavation area from depths of 0 to 12 inches and composited together. The composite sample will be submitted to a laboratory for analysis of the following parameters:

- Semi-volatile organic compounds by USEPA Method 8270D;
- Resource Conservation and Recovery Act (RCRA) 8 metals by Method 6010D or 7471B;
- PCBs by USEPA Method 8082A;
- Specific conductance by USEPA Method 9050A;
- pH by USEPA Method 9045D;
- Ignitability by USEPA Method 1030; and
- Reactive cyanide and sulfide by Method 125.

One grab soil sample will be collected from the approximate center of the proposed excavation area from a depth of 0 to 12 inches and analyzed for volatile organic compounds (VOCs) by USEPA Method 8260C. Soil testing requirements will be coordinated with the anticipated disposal facility. Based upon the soil pre-disposal characterization testing completed in 2003, soil is anticipated to be processed for thermal treatment at the Clean Earth facility in Loudon, New Hampshire. We anticipate that the excavated materials will be transported under Bill of Lading.

Prior to selecting the final disposal facility, we will prepare an Off-Site Rule Compliance Request Form and submit it to the OSC or RPM for coordinating regional Off-Site Rule Coordinator's for review and determination whether the proposed receiving facility is acceptable to receive the waste.

Soil Excavation and Restoration: Excavation will be focused on the western portion of the 2003 excavation area, in the vicinity of post-excavation samples SPE-1, SPE-6, and SPE-8 where PAH concentrations exceeded the ROD level of 0.694 mg/kg. See attached historical Figure 4 from the Second Progress Report (2003) for the proposed excavation area. The excavation will be approximately 7 feet wide by 18 feet in length and approximately one-foot deep. This excavation is expected to generate approximately 5 to 10 cubic yards of soil. Please note that, depending upon the post-excavation bottom and side wall sample results, the excavation may be extended to a depth greater than 12 inches, or extended outside the proposed excavation area shown on Figure 4.

Soil will be removed with a mini excavator and either live-loaded to a truck for transport or will be placed in a roll-off container and covered until removal from the area. Soil near the tree will be hand excavated with shovels to minimize impacts to the tree. Soil will be pre-tested for disposal parameters prior to the excavation (described above). The excavation is not expected to generate

significant airborne dust. During excavation, airborne dust will evaluated visually. If visible dust is generated during excavation activities, the excavation will be temporarily halted and water spraying equipment will be mobilized to the work area. Potable water will be used for dust suppression on an as-needed basis. The excavation will remain open until the post-excavation soil results are reviewed. Additional excavation may be necessary if the post-excavation confirmation sample results indicate that the residual soil concentrations exceed the background concentrations or cleanup goals. After the excavation, the area will be backfilled with clean loam, graded, and natural vegetation is anticipated to fill in the area. The erosion controls will be left in place until the vegetation resumes in the area.

GeoInsight anticipates that the excavation will be completed in one day.

Post-Excavation Soil Sampling: A total of ten post-excavation samples will be collected from the sidewalls and the base of the excavation area. Two soil samples will be collected from each of the east and west side walls (4 samples), one sample will be collected from each of the north and south side walls (2 samples). These samples will be collected of soil representing the 0 to 12 inch depth interval at each sidewall. Four samples will be collected from the base of the excavation at a depth of 12 inches BGS.

One duplicate soil sample will also be collected to evaluate sample variability. Samples will be analyzed for PAH by USEPA Method 8270D using a standard 10-business day turnaround. The approximate locations of the post-excavation samples are shown on the attached figure.

Railroad Line Background Evaluation: Due to the presence of the nearby railroad line, PAH associated with the historical use of coal or fuels used by locomotives may be present in shallow surface soil (an anthropogenic "background" condition). Samples collected by Ebasco in 1988 along the western property boundary in vicinity of railroad track included testing for metals and PAHs. These samples were collected over a depth interval of 0 to 2 feet BGS, and therefore these samples may not be ideally situated to evaluate potential railroad-derived anthropogenic background PAH, which are expected to be concentrated in the upper few inches of soil.

To evaluate whether residual, low concentrations of PAHs are consistent with a potential background condition associated with the railroad, GeoInsight will perform a preliminary screening-level soil sample collection of an additional, six surficial soil samples (0 to 6 inches) along the roadway between the excavation area and the FDDA area to the north. These samples will be initially held (i.e., not analyzed) by the laboratory and tested only if the post-excavation soil samples suggest that PAH associated with an anthropogenic background condition may be present. The background samples will be analyzed for PAH by EPA Method 8270 D. These preliminary screening samples would be used to develop a separate background sampling plan to be submitted for USEPA review and approval, if needed.

Technical Memorandum: At the completion of the excavation and sampling activities, GeoInsight will prepare a technical memorandum to summarize the excavation, laboratory analyses, and off-site soil disposal or re-use of the soil. The memorandum will include an evaluation of pre and post excavation samples and will use representative samples to identify the 95% UCL of the arithmetic mean of the post-excavation sample results using ProUCL to evaluate whether the ROD Soil Action Level was achieved.

Schedule:

The estimated schedule for the excavation activities in the PAH area is summarized below. Note that this schedule may be modified, based on contractor availability.

- Area Preparation (mid May 2022)
- Soil Excavation (late May 2022)
- Background Evaluation (late May 2022)
- Technical Memorandum (June 2022)

ATTACHMENTS:

Annotated Figures 2 and 4 from the Second Progress Report
MWRA 8(m) Permit

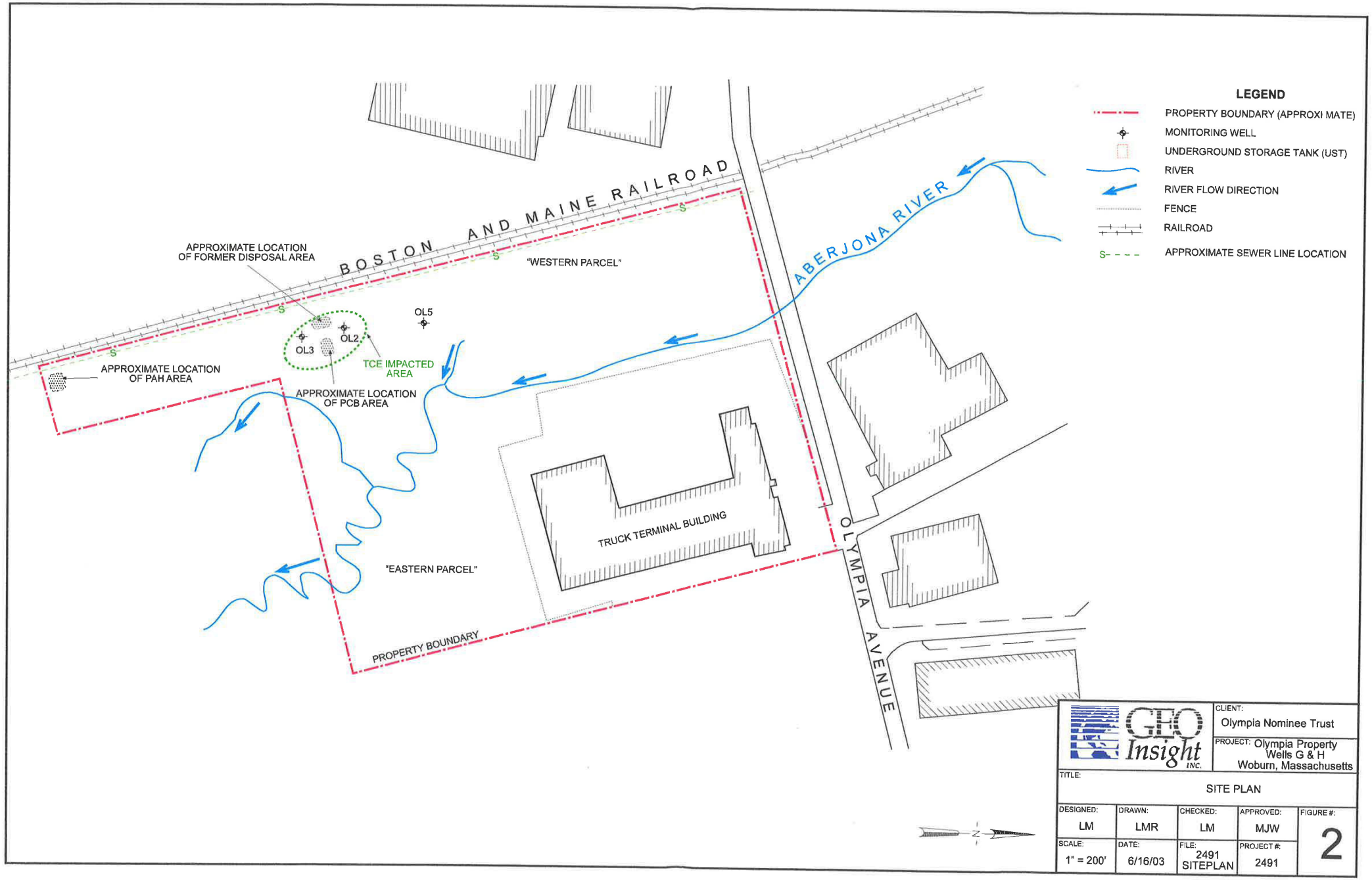

Figure 2 – From June 20, 2003 Second Progress Report for Removal Action

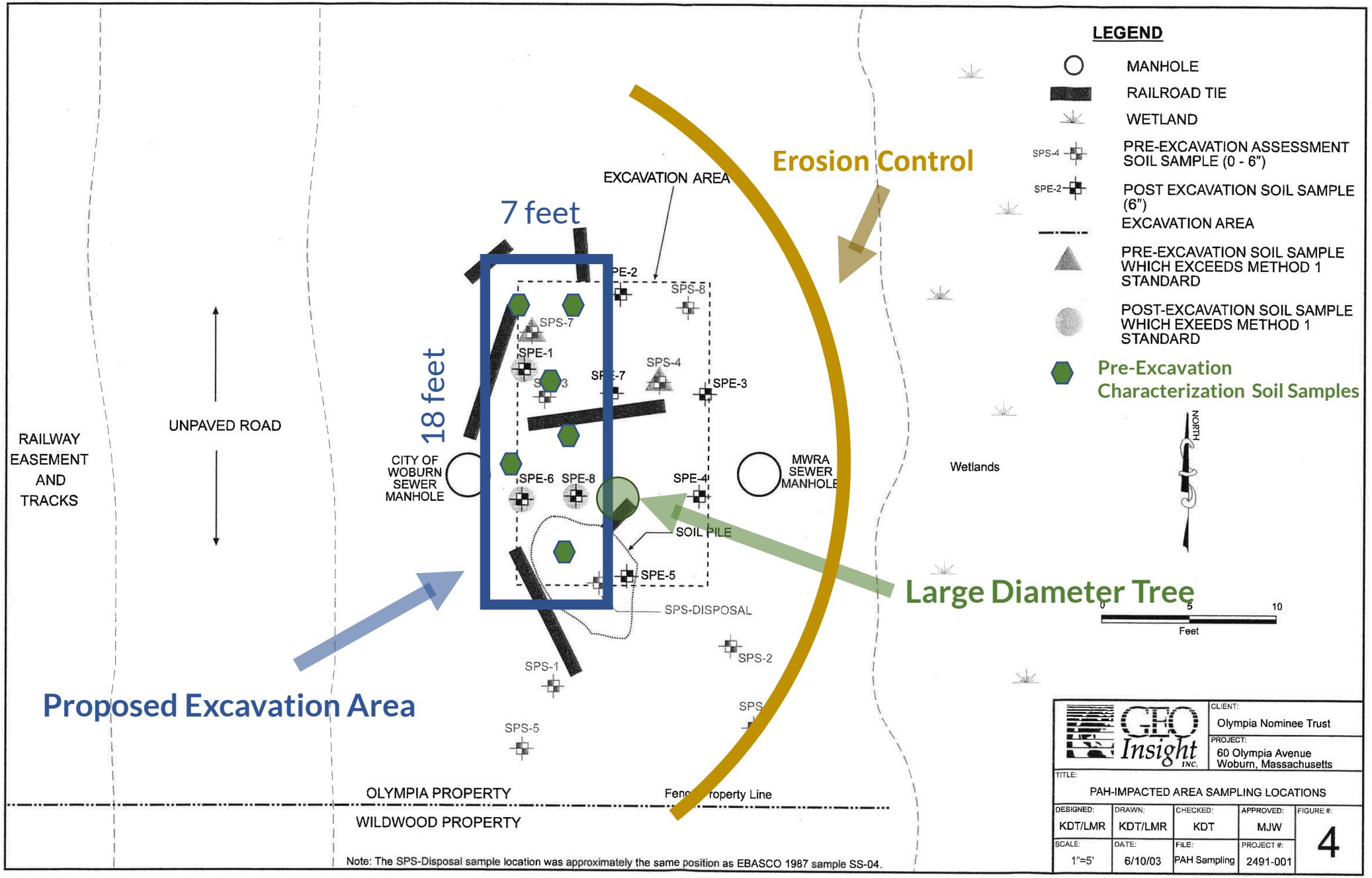

Figure 4 – From June 20, 2003 Second Progress Report for Removal Action

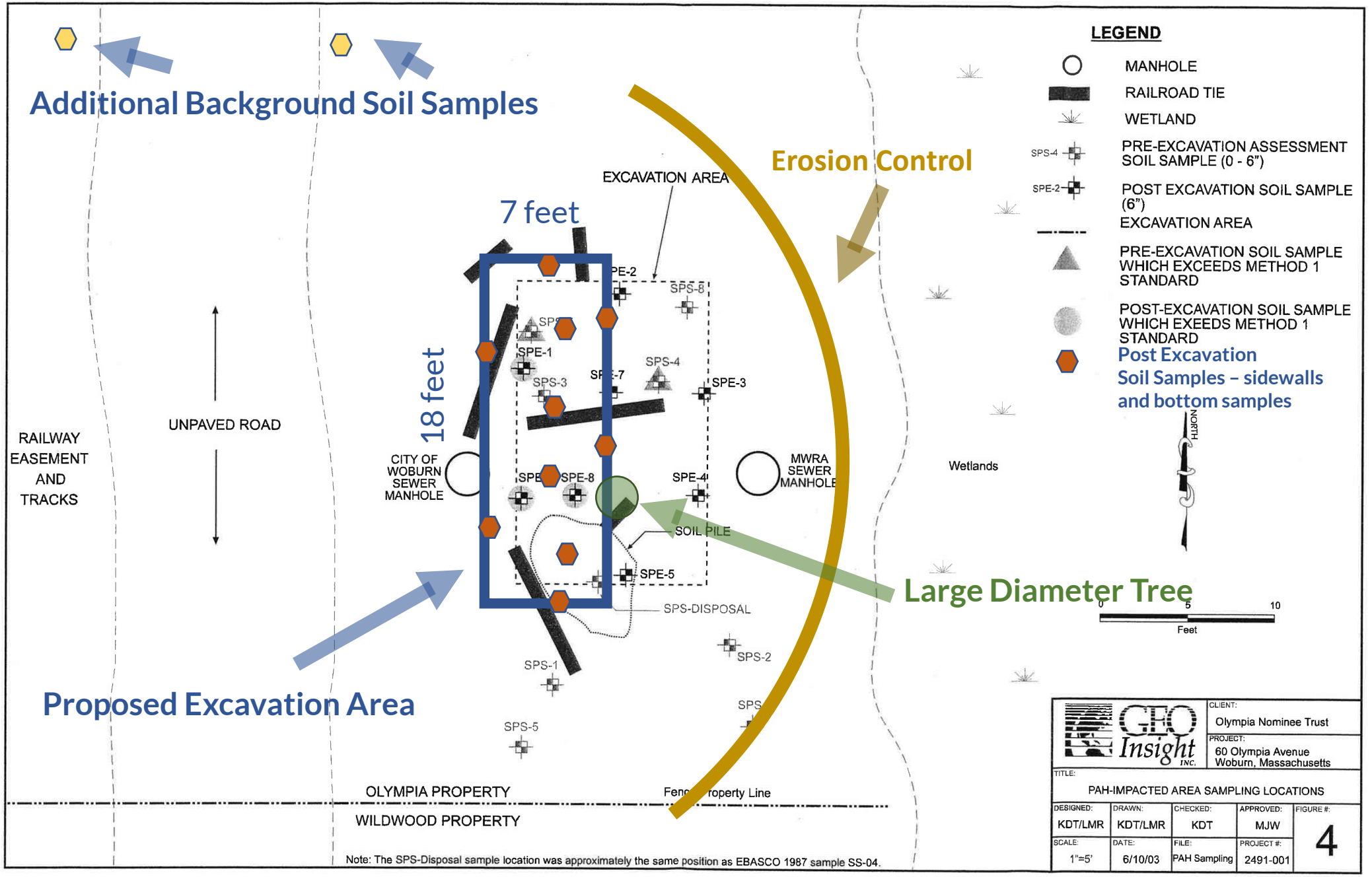

Figure 4 – From June 20, 2003 Second Progress Report for Removal Action

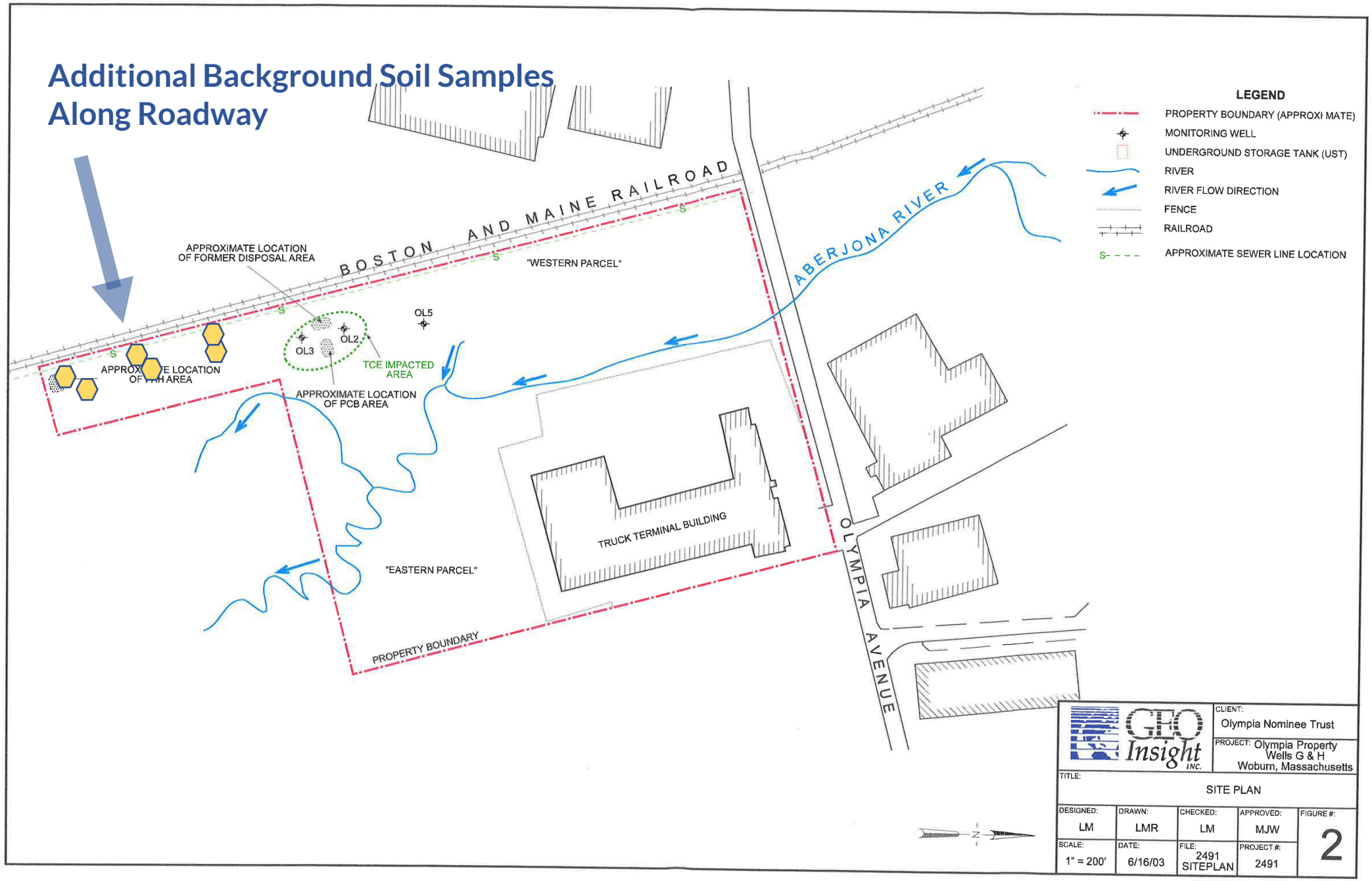

Figure 2 – From June 20, 2003 Second Progress Report for Removal Action

MASSACHUSETTS WATER RESOURCES AUTHORITY
Chelsea Facility
2 Griffin Way
Chelsea, Massachusetts 02150

Telephone: (617) 242-6000
Facsimile: (617) 305-5990

Frederick A. Laskey
Executive Director

June 6, 2003

GeoInsight, Inc.
319 Littleton Road Suite 105
Westford, MA 01886
Attn: Kevin Trainer, Project Manager

Re: MWRA – 8(m) Permit # 03-04-223M – Section 89 - Woburn

Dear Mr. Trainer:

Enclosed please find three (3) copies of 8(m) permit number 03-04-223M. Please sign all three (3) originals where indicated and return two (2) fully executed documents to:

Massachusetts Water Resources Authority
2 Griffin Way
Chelsea, MA 02150
Attn: Kevin McKenna, Project Manager, Transport

If you have any questions, please do not hesitate to call me at (617) 305-5956.

Sincerely,

Kevin McKenna
Project Manager, Transport

MASSACHUSETTS WATER RESOURCES AUTHORITY

PERMIT

DATE: 05/27/03

TO: GeoInsight, Inc.
Name of Permittee

319 Littleton Road Suite 105
Address

Westford, MA 01886
City State Zip Code

Pursuant to Section 8 (m) of Chapter 372 of the Acts of 1984 you are hereby granted permission to use a certain portion of land presently under the jurisdiction and control of the Massachusetts Water Resources Authority for the purpose set forth below.

The land is described as follows:

Massachusetts Water Resources Authority (MWRA) Section 89 between Sta. 21+86 and Sta. 17+ 33.

You may use the land for the purpose of:

Crossing over the permanent easement of MWRA 89 at 60 Olympia Road to conduct remedial work in accordance with a March 17, 2003 "Administrative Order of Consent for Removal Action" (USEPA).

Your use of the land will be subject to the conditions contained in Exhibit A.

Approved:
Massachusetts Water
Resources Authority

Associate General Counsel
(Approved as to Form)

Director, Field Operations

Commonwealth of Massachusetts

I, the undersigned _____ / Kevin Trainer

Signature Print Name

Of the **GeoInsight Inc**. accept and be bound by the terms and conditions of this permit. This permit shall have no effect until such time as the Authority receives a fully executed original of this Permit. Please return a fully executed original to: **Massachusetts Water Resources Authority**, 551 South Street Quincy, MA 02169. Attn: Permitting Department.

EXHIBIT A

CONDITIONS:

1. Permittee's use of the land shall at no time interfere with the Authority's activities or operations on the land. The Authority, has the right to review and approve all of the Permittee's work including such plans and specifications as the MWRA deems necessary.

2. The Permittee and its successors and assigns shall indemnify and hold harmless the Authority and its successors and assigns from all damages and/or claims arising from the acts or omissions of the Permittee on the Premises or of anyone acting by or through the Permittee. The Permittee's obligations under this paragraph shall include reimbursement to the Authority for damage to the Authority's property.

3. The granting of this permission shall in no way interfere with the rights of the Authority to exercise its rights in or over the land as provided in the taking for this section.

4. Permittee Acknowledges that the Authority may enter upon the location at any time in order to carry out the inspection, maintenance, repair, replacement of its property.

5. This Permit may be revoked by the Authority at any time.

6. Permittee will give the Authority at least 48 hours notice before commencing the operations as pursuant herein.

7. This Permit may not be assigned, conferred or transferred.

8. No blasting, drilling or other activity that could in any way affect the integrity of the Authority's property or use of the Premises shall be permitted without express prior written approval of the Authority.

9. Within 30 days after work has been completed you must submit as built per attached standards, if applicable.

Additional Conditions: In work area "C" Prior to starting the vacuum excavation, the centerline of the MWRA sewer should be staked by sighting between manholes at Sta. 26+19 and 21+86.